



PATENT SPECIFICATION

639,700

Date of Application and filing Complete Specification: March 12, 1948.
No. 7616/48.

Application made in Hungary on Aug. 28, 1947

Complete Specification Published: July 5, 1950.

Index at acceptance:—Class 81(ii), A1b.

COMPLETE SPECIFICATION

Jacket Tooth Crowns and the Production thereof

I, ALADÁR KÁRPÁTI, a Hungarian Citizen, of Andrásy ut 55, Budapest, Hungary, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

Jacket tooth crowns made of synthetic resin have not hitherto been manufactured industrially, as the internal cavity of the jacket has to be fashioned differently for each individual. It has already been proposed to make jacket tooth crowns from porcelain, which were secured on headed root pins or on the shaped root stump by cement but in the latter case as it was not possible to adapt the internal cavity of the crown to individual tooth stumps, the stump of the tooth to be crowned had to be shaped in the mouth in accordance with the internal shape of the prepared crown, and this is technically very difficult to carry out. In the synthetic resin jacket tooth crown according to the invention, the drawback referred to above is eliminated, the crown is manufactured industrially in semi-completed condition in advance and can by about an hour's work on the spot be brought into the completed condition, in which it can be fitted on the tooth stump. The essential feature of the invention is that the tooth crown is composed of two synthetic resin jacket layers located one inside the other, made independently and fused or welded together subsequently, of which the external layer is the sheathing jacket, the internal surface of this layer being of a shape substantially identical with that of the external surface and its wall thickness only amounting to as much as is necessary for holding the industrially manufactured jacket in shape in the semi-completed condition, whilst the internal layer constitutes a filling layer which fills the space between the sheathing jacket and the tooth stump to be crowned, and fits on the tooth stump.

Two embodiments of the invention are

shown by way of example in the accompanying drawing.

Fig. 1 is an elevation of a jacket crown for an incisor;

Fig. 2 is an elevation of a jacket crown for a bicuspid;

Fig. 3 is a longitudinal section of the sheathing layer of the jacket crown according to Fig. 1;

Fig. 4 is a longitudinal section of the sheathing layer of the jacket crown according to Fig. 2, and

Fig. 5 is a section of the jacket crown fixed on the tooth stump.

According to the invention, the jacket crown is composed of two independently made jacket layers *a*, *b* of synthetic resin which are subsequently fused or welded together. The external jacket layer *a* constitutes the sheathing jacket of the crown to be prepared and may be manufactured industrially and stored in the semi-completed condition. The wall thickness of this sheathing layer amounts to about 0.5 to 1 mm, that is to say to only as much as is necessary in order to enable the crown in semi-completed condition to hold its shape. It is only on the incisal edge or at the cusps of the grinding surface that the wall thickness is slightly greater. The external and internal surfaces of the sheathing jacket layer are practically of the same shape. The internal jacket layer *b* constitutes a filling layer between the tooth stump *c* and the external jacket layer *a*, and this is made on the spot when building up the crown on the tooth stump, and is subsequently fused or welded to the external jacket layer *a*.

The building-up of the crown on the tooth stump is performed in the following manner: from a stock of external sheathing jackets *a* industrially manufactured in advance in semi-completed condition, a jacket of suitable colour and size is selected, and this is abraded, polished or cut until it fits the tooth stump *a* prepared in the mouth and to be crowned, as

regards junction at the tooth cervix and the bite. Following this, the liquid plastic material of the internal jacket layer *b*, prepared so as to have the consistency of cream, is poured into the cavity of the sheathing jacket, following which the jacket is pressed on to the tooth stump *c*. During this operation of pressing-on, the surplus material of the fluid internal layer will be squeezed out and the material which has remained in the crown will entirely cover the tooth stump *c*. After allowing it to stand for about 3 to 4 minutes, the plastic material, particularly if air is blown on to the crown in the meantime, will become solidified to a sufficient extent to enable the crown to be lifted off from the tooth stump without any distortion of the internal layer *b*. The internal cavity of the crown will now entirely correspond to the shape of the tooth stump. The crown thus prepared is embedded in plaster of paris and subjected to the usual boiling or curing for about 30 minutes, which will cause the internal jacket layer *b* to become fused or welded to the external sheathing layer *a*, thereby completing the jacket crown. The operation described requires a time approximately of between half an hour and an hour, i.e. it takes less time than the work performed according to the old methods, and results in a perfect and pleasing tooth crown.

It will be understood that the tooth crown according to the invention can also be applied to metal-framed bridges, or to other dentures.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. A jacket tooth crown made of synthetic resin, consisting of two synthetic resin jacket layers located one inside the other, made independently and fused or welded together subsequently, of which the external layer constitutes the sheathing jacket, the shape of the internal surface of which is substantially identical with that of the external surface, its wall thickness only amounting to as much as is necessary for holding the industrially manufactured jacket in shape in the semi-completed condition, whilst the internal layer constitutes a filling layer filling the cavity between the sheathing jacket and the tooth stump to be crowned, and fitting on the tooth stump.

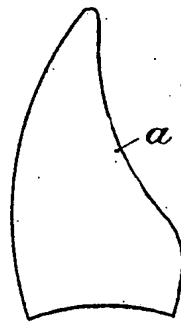
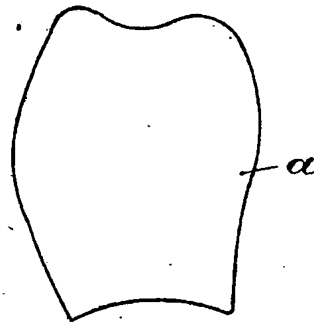
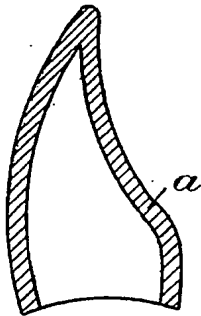
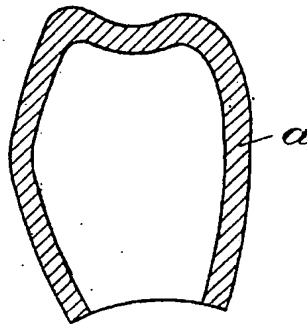
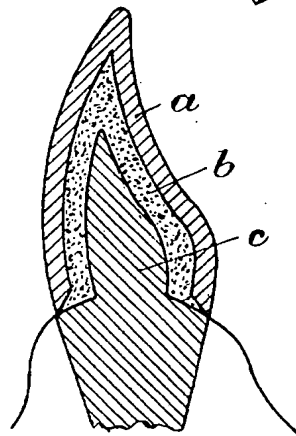
2. A method for the production of a jacket tooth crown made of synthetic resin, consisting in abrading, polishing or cutting an external sheathing jacket of synthetic resin made industrially in advance to fit the tooth stump as regards its junction with the tooth cervix and the bite, following which fluid synthetic resin material for an internal layer is poured into the cavity of the external sheathing jacket and the crown then presses on the tooth stump, where the internal fluid layer is allowed to solidify, following which the tooth crown is removed from the tooth stump, embedded in plaster of paris, and the external and internal jacket layers are fused or welded together by the usual boiling or curing.

Dated this 12th day of March, 1948.

SEFTON-JONES, O'DELL &
STEPHENS,

Chartered Patent Agents,
15, Great James Street, London, W.C.1,
Agents for the Applicants.

Leamington Spa: Printed for His Majesty's Stationery Office by the Courier Press—1950
Published at The Patent Office, 25, Southampton Buildings, London, W.C.2, from which
copies, price 2s. 0d. each (inland) 2s. 1d. (abroad) may be obtained.

*Fig. 1.**Fig. 2.**Fig. 3.**Fig. 4.**Fig. 5.*

[This Drawing is a reproduction of the Original on a reduced scale.]